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ART. I.—ON THE SOUNDS OF THE HEART.

BY J. H. S. BEAU,

Chef de Clinique at the Hospital La Charité.

[This is a difficult subject of investigation, which we hope will be elucidated by the labours of a zealous and able friend, who contemplates instituting, at an early period, a set of experiments on animals on the normal action of the heart. Hitherto, experiments have yielded results by no means accordant. To many of these we have referred elsewhere,¹ and—for the reasons there given—have stated, that farther observations are necessary, but that in the present state of our knowledge, the view of Dr. Williams and of Mr. Carlile is most in accordance with observed phenomena. This view refers the *first sound* to the systole of the ventricles, and the *second* to the obstacle presented by the semilunar valves to the return of the blood from the arteries into the heart. The first sound, at all events, appears to be synchronous with the systole of the ventricle, and the second with its diastole.

M. Beau whose attention to diseases of the heart is well known to the profession, both from the mention made of him by M. Bricheteau in his "Medical Clinics of the Hospital Necker," published in the "Library," and from his own publications, gave the following account of the normal sounds of the heart in a paper which he published four years ago;² and—from a recent communication—farther observation appears to have confirmed him in his views.—*Ed.*]

"1. The succession in the movement of the cavities of the heart takes place as follows:—contraction of the auricles, dilatation of the ventricles, contraction of the ventricles, dilatation of the auricles; then a recurrence of the series, contraction of the auricles, &c.

"2. The *first sound* of the heart, or *inferior sound*, or *ventricular sound*, is produced at the moment when the wave of blood, impelled by the contraction of the auricle has rapidly dilated the ventricle. It is the result of the shock of the wave against the paries of the ventricle which is situate opposite to the auriculo-ventricular orifice.

"3. The *second sound*, or *superior sound*, or *auricular sound*, is produced at the moment of the dilatation of the auricle. It is owing to the arrival of the column of blood, which *debouching* rapidly from the venous trunks, strikes against the anterior paries of the auricle.

¹ Human Physiology, 3d edit. ii. 160. Philad. 1838.

² Archives de Médecine, Dec. 1835.

"4. The rhythm of the motions of the heart is composed of three regular and equal times. In the first, which is marked by the *ventricular* sound, there is contraction of the auricle, dilatation of the ventricle, contraction of the ventricle. In the second, which is marked by the *auricular* sound, there is dilatation of the auricle and depression of the semilunar valves, which retain in the arteries the blood first sent into the ventricles. Lastly, in the third time, which is marked by a *silence* equal in duration to one of the preceding sounds, the dilatation of the auricle continues until its repletion is complete.

"5. Consequently, the wave of blood sets out from the auricle, traverses the ventricle, and arrives in the artery in one third of the time concerned in the entire revolution of the heart. The two other thirds are occupied in the dilatation and entire repletion of the auricle.

"6. The shock of the apex of the heart against the paries of the thorax is the effect of the diastole of the ventricle, not of its systole."

[In the communication before referred to, published in the same journal¹ and entitled "Researches on Certain Points of the Semeiology of Affections of the Heart," M. Beau deduces the following inferences, basing them on the normal sounds described in his earlier paper.]

"1. Hypertrophy of the ventricles does not, of itself, give rise to the shock or impulse in the praecordial region. This shock exists only in a high degree when hypertrophy of the ventricles is accompanied by hypertrophy of the auricles.

"2. The abnormal sounds are produced by the increased friction which the blood exerts against the paries of the cavities of the heart, which occurs when there is a want of proportion between the wave of blood and the calibre of those cavities.

"3. The contraction of the orifices is not a necessary cause of abnormal sounds; for different circumstances may occasion the volume of the wave to be diminished in the same proportion as the diameter of the contracted orifice, and consequently there may not be any augmented friction.

"4. When the contractions are not accompanied by abnormal sounds, as frequently happens in old persons, there is, most commonly, irregularity in the normal sounds and in the pulse.

"5. The abnormal sounds of the first time are produced by the different kinds of polyæmia; by the lesions which occasion a diminution in the calibre of the auriculo-ventricular and ventriculo-arterial orifices. To these may be added insufficiency in the auriculo-ventricular valves.

"6. The abnormal sounds of the second time arise merely from ventriculo-arterial insufficiency.

"7. The seat of *maximum* intensity of the abnormal sound of the first time, is commonly found at the part of the praecordial region which is opposite the inferior half of the heart, or its point. That of the abnormal sounds of the second time, is in the point of the praecordial region, which answers to the base of the heart.

"8. It is impossible to distinguish by the seat of the sounds in the praecordial region, which is the side of the heart whose orifices are affected.

"9. The abnormal sounds differ from the normal in their seat, mode of production and form: they have, consequently, a separate existence, and may be met with together; but they are never transformed into each other.

"10. Like the normal sounds, the movements of the cardiac cavities may be double, (*se dedoubler*,) and take place separately."

ART. II.—NUTRITION OF THE FŒTUS.

Spring Hill, Va. May 29, 1830.

Professor Dunglison,

Dear Sir,—If you think the remarks below are deserving a place in your valuable “Journal,” they are for publication. I do not offer them as claiming originality, but merely as eclectic.

Very respectfully,
A. J. COONS.

The source from which the fœtus receives its pabulum for the growth of the same, has been a point of warm controversy among different authors; and one that has solicited the greatest diversity of opinion.

But in the absence of any thing of an absolute character, we should adopt the theory that will admit of the greatest amount of evidence. Then, for the first few weeks of gestation, before there is either placenta or liquor amnii to afford the pabulum, the new being receives its increment from a nutrient principle that descends to the uterine cavity through the fallopian tube at the time of the ovum itself. In fact, this gelatinous mass surrounds the embryo, and may be considered a part of the ovum. The process effected here is very analogous to the development of the chick in *ovo*, during the period of incubation.

From the time when the placenta is in *esse*, some distinguished authors are of opinion that the fœtus is nourished by the function of absorption; and that the nutriment offered for the exercise of this function is the liquor amnii.

This liquor, Professor Dunglison suggests, may be secreted by the maternal vessels, which would therefore call for a process of imbibition and transudation through the membranes.

Those authors who have maintained that the cutaneous surface of the fetus has the power of absorbing, have denied such an office to the placenta, any further than oxygenating the blood of the new being. Now, it would seem an organ, so vascular in structure as the placenta, and so closely adherent to the uterus (another viscus of great vascularity) as to make a sensible indentation in it, must imbibe some part of the fluid that circulates in the womb.

An overwhelming argument in favour of the placenta absorbing nutriment for the fœtus is, that the fluid circulating contiguous to it is highly nutritious, which is not the case with the liquor amnii, as we shall presently show. Professor Dunglison in support of a different opinion from ours, remarks, “We have the most incontestable evidence, that neither the placenta nor umbilical cord is indispensably necessary for fœtal development.” Now every argument the distinguished professor brings forward in support of his position, it seems he concentrates in the single case observed by Dr. Good in 1791.¹ And to use his own words, in this case, “a small shriveled placenta, or rather the rudiment of a placenta, followed soon after the birth of the child, without a funis or umbilical vessel of any kind, or any other appendage by which it appeared to have been attached to the child.” As unimpeachable as this case seems, it may be asked might not some contingency relative to the same have existed, of which the sagacious mind of Good did not take cognisance? It may be, this separation of the placenta from the fœtus took place just before parturition—the cord having sphaeculated; or from some cause still more occult. At least, I think these hypotheses are more plausible than some on the negative side of this question; such as the vivifying of the blood being accounted for, from the unusual quantity of

¹ The views of the editor to which our correspondent refers, is contained in his *Human Physiology*, 3d edit. ii. 456. Philad. 1838.—*Ed.*

oxygen contained in the liquor amnii: and a supplementary function being assigned to the liver for the discharge of the same office.

But to proceed. Cases of this character are very eminently rare; and there are found very generally (if not always) some traces of a placenta. I am not aware of any clear case on record which leads us to conclude *a priori*, there must not have existed a union during some period of gestation; and to determine how long before parturition this separation took place, is involved in the deepest obscurity.

Indeed, how can the liquor amnii be of much aid, if any, in offering nutriment to the foetus, when from chemical analysis it is little else than water? Containing, agreeably to MM. Vauquelin and Buniva, water 98.8; albumen, salts of lime and soda, 1.2.

There are other important functions assignable to this liquor without calling in the function of nutrition. If we admit this function more properly belongs to the liquor amnii, and that the placenta is not essential to foetal life—foetuses having been born without a placenta—then we had as well admit that nature, by a slight effort, might very handsomely have dispensed with this organ altogether. In opposing the opinion of those physiologists who have introduced the marsupial animals, as one case of animals breeding without a placenta, it is only necessary to say, they have introduced an example of analogy, like many others, that will not obtain between man and the lower animals.

But let us examine a little into the other side of the question. And first, it is an incontestable fact that children are sometimes born—and in a vigorous and healthy condition—when the liquor amnii is fetid. (Blundell.) Again, it cannot be denied that the liquor amnii is sometimes discharged several weeks before the extrusion of the child. In these cases it has been observed at birth, that the infant was plump and well nourished; “which (in the language of Blundell) could not have been, had the nourishment of the child depended upon the liquor amnii.”

Now let us compare, for a short time, the validity of these two theories as to the source from which the new being receives its nutriment.

If we receive the liquor amnii as the source of nourishment, it may be asked, how is the blood vivified when there is no placenta? Here we are left profoundly in the dark. If we adopt the placenta as the means of nutriment to the child, and at the same time vivifying its blood, it is sufficiently intelligible how it is supported in those cases where there is no liquor amnii. And again, the discharge of this fluid previous to the time of labour is much more common than the separation of the child from the placenta prior to the same time.

A. J. COONS, M. D.

For the American Medical Intelligencer.

ART. III.—CURIOUS CASE OF PROTRACTED EXPOSURE IN A DRAIN.

[We publish with pleasure the following singular case, obtained from the interesting relic of medical history, with which our esteemed correspondent has favoured us.—*Ed.*]

Sir,—Herewith you will receive a very scarce, and, as regards Philadelphia, probably a unique copy of the *Charleston Medical Register*, for the year 1802, by David Ramsay, M. D., which I received from the author soon after its publication. I deem it worthy of a new dress, and hope you will agree with me in opinion on the subject. The advice contained in the in-

troduction is marked by the sound sense which distinguished all the writings of the author, and the statement of the long residence of the Kentucky horse dealer in a pestilential underground drain is one of the most extraordinary instances of the human vital principle to resist foul air, or of defective excitability to its effects, on record.

Accept my respects,

Professor Dunglison.

JAS. MEASE.

"On the night of the 9th of October, 1802, William Withers, a horse dealer from Kentucky, descended through a grate into one of the covered arched drains that pervade the streets of Charleston, and passed along the same till he was opposite to the South Carolina Bank. He then began operations to make a subterraneous passage across from the drain to the vaults, in which the cash of the bank was deposited. In prosecuting this business, he passed ninety days and nights under ground, and in a prone posture. For the first twenty-two days after his descent, it was so uncommonly warm as to be on an average nearly seventy-nine. For the last sixty-eight days the heat varied from seventy-four to thirty-three. In the first period, yellow fever, intermitting, and other fevers of warm seasons, were common among the inhabitants. In the last period, pleurisies, colds, and catarrhal complaints, were, in like manner, frequent: yet, all this time, Withers enjoyed good health, with exceptions of a few slight headaches and pains in his bones, which generally went off with perspiration in the course of his next repose. His situation in the drain was distressing; but it was tolerable after passing through it, as he was surrounded with earth. He had no blanket nor covering of any kind, but his light ordinary apparel, which he never put off. His usual time of sleeping was when he judged it to be day from the noise he heard over his head. His signal for recommencing work was the receipt of provisions, dropped by his accomplices, in the night, through a grate. He was sometimes exposed to serious danger from the springing of water; and his bed was earth, which was often damp. His food was mostly bread, butter, and cheese, and, with the exception of one bottle of wine, water was his only drink. Butter burning in a lamp afforded him light.

"Three days frequently passed without discharging the contents of his bowels.

"The enjoyment of so much health, for so long a time, under such circumstances, was, in part, probably owing to the following causes:—

"1. A strong constitution, inured to hardships in every period of his life.
"2. That constitution suited to the air of Charleston, by a very recent seasoning. He had but just recovered from a severe fever when he entered the drain. Though relapses are not uncommon, yet a new and distinct fever scarcely ever attacks strangers in the same summer in which they receive their first serious impressions from our climate.

"3. The effects of moisture must have been in a great degree parried by his labour, and the moisture itself moderated by the dry sandy nature of the soil through which he had to work, and by the absence of rain; for the first fifty days after his descent, the whole quantity of rain that fell did not amount to two tenths of an inch; and in the last forty was only five inches eight tenths; besides simple moisture, without heat or miasmata, is comparatively harmless.

"4. The absence of several of the exciting causes of diseases. The heat of well water and of the earth a few feet below the surface is generally the same in all countries, as the medium heat on an average of the different seasons in these countries respectively. This, in Charleston, is sixty-five or at most fifty-six on Fahrenheit's thermometer. Withers must have enjoyed a steady unvarying atmosphere of this temperature, while the inhabitants

above ground were panting under a heat of eighty, or distressed with the cold of thirty-three, and subject to all the changes of an atmosphere vibrating from one extreme to the other. It would seem that something in the air of Charleston, which is so destructive to strangers, in the summer and autumn, is too volatile to descend below the surface. Miners and colliers, in all countries, are generally healthy.

"The experiment is not recommended; but it is probable that a subterranean residence might be so constructed as to afford security against our local diseases.

"The great excitement of Withers's mind, from the prospect of accumulating wealth, must have counteracted the effects that otherwise would naturally have resulted from his situation. The energies of human nature, when in pursuit of a great object, (especially if invigorated with the hope of obtaining it,) are beyond all calculation. The weakly wife, and the tender mother will undergo watchings and fatigues in nursing the objects of their affection far beyond the power of human nature to bear, when in a state of indifference. The high toned state of Withers's mind must have had a decided influence in preserving his health: it is much to be regretted that it was not excited by worthy objects."

ART. IV.—THE SUBSTANCE OF A CLINICAL LECTURE ON CURVATURE OF THE SPINE.

BY FREDERICK TIALE THOMSON, ESQ.

Assistant Surgeon to the Westminster Hospital.

(Delivered on Wednesday, April 10, 1839.)

The kind of disease which Mr. Thomson had chosen for the theme of his observations this day, belonged, he said, to a class of affections which was in the highest degree worthy the attention of the medical man. Whether we regard the importance of the vertebral column as constituting the most indispensable part of the osseous mechanism which is designed by nature to maintain the form and insure the progression of the human being; or whether we regard it as a bony sheath destined for the protection of an organ, upon the perfect integrity of which depends immediately the safety of the individual,—the seriousness of the consequences that must arise from the occurrence of injury to, or disease in, its structure, will be palpably obvious.

The changes which distortion of the spinal column necessarily produces in the form of the body are so striking, and the causes which create distortion are so general in all states of society, that this class of maladies must have attracted attention in the earliest times. We accordingly find that Hippocrates and Galen refer, in their works, to "curvature of the spine" as an affection familiar to the most casual observer.¹ It is only within the last fifty years, however, that the attention of surgeons has been particularly directed to the subject. Mr. Pott, in particular, wrote a treatise, which became very celebrated, on one class of spinal distortions, namely, Posterior Curvature, connected with, or arising from, diseased structure.

The affections of the spinal chord, Mr. Thomson said, might be conveniently divided into two classes:—

1. Those affecting the spinal marrow; and

¹ *Lancet*, April 20, 1839, p. 132.

² Hippocrates relates a case of paralysis of the lower extremities which was cured by an abscess in the back. He calls it a case of "useless limbs," attended by curvature of the spine.

2. Those implicating the bony structure and intervertebral substance alone.

The first class, which had been most ably treated by M. Olivier and Sir Benjamin Brodie, he should defer to a future series of clinical demonstrations; the present series he intended to devote to the second class, which involved the bony sheath of the medulla spinalis.

It was singular that the remedies prescribed by Galen for distorted vertebral column should be the same in principle as the most approved remedies for the disease adopted in the present day. Quiescence, recumbency, and counter-irritants constituted the staple of Galen's treatment. During the period that had elapsed since the time of that physician the treatment of these diseases had been purely empirical. It had not been fixed upon the true principles of physiology and pathology. If a practitioner now and then hit upon a successful method of treating any one of the varieties of spinal disease, it was a mere accident of the time, and the facts elicited were not generalised, but perished with the individual.

Of three hundred cases which occurred in Mr. Thomson's private practice, of which he had taken accurate notes, the following is a correct distribution:—

Cases of curvature to the right side, without disorganisation of structure	240
Cases of curvature to the left side, without disorganisation of structure	12
Cases of posterior curvature <i>with</i> disorganisation	34
Cases of posterior curvature <i>without</i> disorganisation	11
Cases of incurvation	3

Total 300

Various deductions might be made from this tabular statement. From an examination of his case-book it appears that all these cases belonged to the middle or upper classes of society. Among the poorer classes these affections are much more rare. Cases of the kind are consequently not of such frequent occurrence in hospital practice, and when they do occur, they are generally very far advanced, the first stage of the malady having been overlooked by the improvident patients or their unobservant friends. The great predominance of cases of curvature from side to side to those in which the curvature occurs in the antero-posterior direction, is worthy of observation,—the number of the former being 252, while that of the latter is only 45. Of this difference Mr. Thomson said he was not aware that any rational solution could be given. It is likewise worth observing that the number of distortions unattended with disorganisation is 263, whilst the number of those accompanied with altered structure is 37.

The posterior curvature of course varies greatly in degree, according to the extent of the atrophy or absorption of the normal structure; the constitutional causes, however, appear to be the same in all cases. These are defective nutrition, direct or indirect, *viz.*, deficiency of food, or the functions of the stomach being impaired by excess of aliment, most commonly the latter; and disease of the bony structure, either originating in violence or scrofulous inflammation of the cartilage, or ligamentous structure of the vertebral column. Such affections are usually preceded by pain; nevertheless cases may occasionally be met with in which the intervertebral substance, and even the bodies of the vertebrae themselves are absorbed without the usual symptoms of pain being manifest. Mr. Thomson particularly alluded to some cases that had occurred in the hospital, in which portions of the outer table of the cranium had been absorbed, without pain being felt in the part. If, therefore, (he argued) this took place in one part of the bony structure, it might be conceded as likely to be exemplified in others.

Of the 37 cases of distortion of the vertebral column, the result of disorganisation, occurring among the 300 cases which he had particularly recorded, 34 were examples of posterior curvature, and three were instances of incurvation.

Incurvation the lecturer defined to be a projection of the lumbar vertebræ within the pelvis. This was attended with a peculiar waddling gait, and was generally a sequel of paralysis. Its most striking effect was the simultaneous shortening of the body. In the case of a gentleman, 40 years of age, now under the care of Mr. T., a loss of six inches in the height of the body had been sustained from incurvation of the lower dorsal and lumbar vertebræ.

That to which Mr. Thomson more particularly desired this day to invite the attention of the students, was that species of spinal disease described by Pott, and known as the curvature backwards (that is, the convexity being backwards), attended with altered structure or atrophy. The mode of diagnosticating diseases of the spine was fortunately not very complex. It was his practice to strip the patient to the skin, and to make him stand upright. He then takes a view of the general contour of the body. After this *coup d'œil* he desires the patient to make no audible complaint if pained, and draws his index finger in a line extending from the last of the cervical vertebræ to the sacrum, making steady pressure all the while. During this procedure he carefully observes if the patient winces, and at what point in the described line the wincing is excited. Finally, he strikes with a moderated force the spinous process of each vertebræ. If one or more are affected, a dull pain is occasioned in the part, which lasts for a time. The presence or absence of this pain, taken in relation with the excitement or non-excitement of the wincing, constitutes an unerring criterion of the existence of disease in the part, or the contrary.

Mr. Thomson stated that Mr. Copeland and Sir Astley Cooper, whose opinions are entitled to high respect, had recommended certain means of diagnosis in the diseases of the vertebræ, but he could not concur in the recommendation. The plan suggested by Mr. Copeland, passing a sponge, dipped in hot water, from the top to the bottom of the spine, he (Mr. T.) thought particularly delusive, as it would often make the patient wince when there existed no local disorganisation or inflammation whatever. Some surgeons recommended that the patient should be made to bend forward, in which case a greater space would be made to appear between the spinous processes of the affected vertebræ than between those of the sound ones; but Mr. Thomson is of opinion that this proceeding is not only useless, but even injurious; for a careful pursuance of the plan which he had pointed out would remove all doubts as to the nature of the malady, and the moving and bending of the spine, as suggested, would necessarily injure the parts implicated in the motion.

"Pott's curvature" occurred most frequently at an early age, he should say chiefly under the age of nine. He had, however, known instances of the disease being developed at forty and sixty years of age. It is often concomitant in children with *mollities ossium*, or rickets, and in such concurrences it might, of course, be considered as an index of a serofulous diathesis. In fact, the occurrence of the posterior curvature in a child afforded a strong presumption, before an examination was instituted, not only that the child was scrofulous, but also that the curve was the result of organic lesion.

Seldom less than two of the vertebræ and the intermediate intervertebral substance were affected in "Pott's disease." The substance of these bodies became absorbed, the direction of the spinal canal became altered, and the posterior processes formed an acute angle, the abrupt prominence of which, when the disease was of long standing, afforded an index of its nature.

In children, Mr. Thomson stated, the diagnosis was made more difficult by their inability to point out the nature or the exact seat of the pain; a careful and connected scanning of the symptoms, however, would afford adequate criteria for the solution of every diagnostic difficulty. One circumstance was particularly remarkable in these cases, the concomitance of emaciation of the leg and nates of one side, a fact of which no sound explanation had as yet been given.

Immense mischief had been done by neglecting physiological principles in the treatment of all distortions of the spine, but most particularly in the kind under immediate consideration. Various machines had been invented for the treatment of spine affections, and dynamic principles had alone been consulted in their construction. It will be obvious to the well-educated practitioner, that no plan can be successful which does not act through the medium of the patient's constitution. The first step of the treatment would, therefore, be, to improve the patient's general health. To this end, the diet must be strictly regulated; nutritive animal food must be given in moderate quantity, and must form the *noyau* of his aliment. The remainder of his food must be farinaceous. No stimulants, no vegetables, whether salads or pot-herbs, no pastry or confectionary were to be permitted. Nothing but what is simple and easily digested should be taken as food. The *prima viæ* should be unloaded by means of mild laxatives, and a combination of the hydr. c. creta with rhubarb would be found to be an excellent alterative for children. Hand-in-hand with this constitutional treatment should proceed the local medication. The patient should be made carefully to eschew the vertical posture. He should be kept flat on his back, and lie on a hair mattress. The best mode of applying counter-irritation is to smear with a camel-hair brush the tincture of iodine, in strips, over the skin, on each side of the affected portion of the spine. This excites a temporary inflammation, which subsiding leaves a furfuraceous state of the skin. This application may be repeated daily. This system, if carefully pursued for six months, will perfectly remove the active disease, and restore the patient's locomotive functions. Mr. Thomson puts no faith in collars, backboards, stays, "spinal supports," &c. These means are worse than useless. No plan of treatment has any chance of success which is not based on the *vis medicatrix natureæ*.

The lecturer was attending a case in the borough along with a most respectable practitioner in that quarter of the town. The patient was the son of a tradesman, and had been subjected to every variety of the mechanical treatment without experiencing any improvement. He had used what is called the "prone couch" for several months. This is a species of bed, on which the patient lies prone, supporting his trunk upon it, and allowing his extremities to hang down. He (Mr. Thomson) had now subjected him for three months to the treatment which he had just described, and the boy had improved amazingly. The patient was about four years old, and in six months from the first adoption of the plan, Mr. Thomson had no doubt that he would be quite well.

Mr. Thomson again alluded to the greater severity of the cases of this kind which are to be met with in hospital practice, and related a case which had been treated in the Westminster Hospital, where the cervical vertebrae were the seat of disease. An abscess was formed which penetrated the posterior parietes of the thorax, but the patient died suddenly, from inducing pressure on the spinal chord. In rising to take his food he turned his head suddenly, dislocation of the diseased vertebrae was the result, and immediate death from pressure. This case led the lecturer to deliver some judicious cautions as to the examination of injuries and diseases of the vertebral column.

In conclusion, Mr. Thomson dwelt upon the great frequency of the lateral sigmoid curvature of the spine, which is accompanied by two essential circumstances, debility of the muscular fibre, and compression, if not atrophy, of the intervertebral substance. This numerous class of distortions will constitute the subject of his next lecture.

BIBLIOGRAPHICAL NOTICES.

Report of the Pennsylvania Hospital.

We extract from the published report of this excellent charity, which since its first establishment has extended its benefits to nearly 35,000 persons, the following table of cases treated within the last twelve months.

Abstract of the Cases of 1186 Patients treated in the Pennsylvania Hospital in the year ending 4th mo. 27th, 1839.

ADMITTED FOR	Cured.	Relieved.	Removed by friends, or at their request	Discharged for mis- conduct.	Eloped.	Died.	Remain.	Total.
ACCIDENTAL INJURIES, VIZ.								
Burns	7	2	0	0	0	5	0	14
Contusions and wounds	79	11	4	0	0	9	6	109
Coup de soleil	0	0	0	0	0	1	0	1
Dislocations	12	0	0	0	1	0	0	12
Fractures	75	9	5	0	1	24	12	126
Frosted	2	1	0	0	0	1	1	5
Gun-shot wounds	3	0	0	0	0	.1	0	4
Poisoned	1	0	0	0	0	1	0	2
Sprains	14	0	0	0	0	0	1	15
DISEASES OF THE CHEST AND RESPIRATORY ORGANS.								
Asthma	1	1	0	0	0	0	0	2
Bronchitis	3	3	0	0	0	0	1	7
Catarrh	8	1	1	0	0	0	1	11
Emphysema	0	1	0	0	0	0	0	1
Hæmoptysis	5	0	0	0	0	0	0	5
Laryngitis	1	1	0	0	0	0	0	2
Phthisis pulmonalis	0	1	1	0	0	8	1	11
Pneumonia	5	1	0	0	0	0	2	8
Pleurisy	1	1	1	0	0	1	1	5
Diseases of the heart	4	0	0	0	0	0	4	8
DISEASES OF ABDOMINAL VISCERA.								
Colic	1	0	0	0	0	0	0	1
Constipation	0	0	0	0	0	1	1	2
Diarrhoea	4	1	1	0	0	0	3	9
Dysentery	14	0	1	0	0	2	0	17
Enlarged spleen	1	1	0	0	0	0	0	2
Fistula	2	1	0	0	0	0	1	4
Gastritis	6	3	0	0	0	0	0	9
Hernia	0	3	0	0	0	0	0	3
" strangulated	2	0	0	0	0	0	0	2
Hæmorrhoids	2	0	0	0	0	0	0	2
Hæmatemesis	1	0	0	0	0	0	0	1
Hepatitis	0	0	1	0	0	0	2	3
Dyspepsia	3	0	0	0	0	0	0	3

ADMITTED FOR.	Cured.	Relieved.	Removed by friends, or by their request.	Discharged for mis- conduct.	Eloped.	Died.	Remain.	Total.
Gangrene	0	0	0	0	0	1	0	1
Hare lip	1	0	0	0	0	0	0	1
Paronychia	4	2	0	0	0	0	1	7
Rheumatism	8	8	1	0	0	0	8	65
Scirrhous parotid	1	0	0	0	0	0	0	1
Scrofula	1	1	1	0	0	0	0	3
Tumour	3	0	1	0	0	1	2	7
Ulcer	36	6	3	0	0	0	5	50
Insanity	17	11	23	0	1	11	106	169
Mania a potu	22	0	0	0	0	3	0	25
	612	116	67	4	2	84	202	1087
<hr/>								
LIVING-IN WARD.								
Women safely delivered .	36	0	0	6	0	0	2	44
Infants removed in health .	35	0	0	0	0	1	1	37
			73	4		85	205	1168

Professor Gross's Pathological Anatomy.

We are gratified to learn that Professor Gross, of Cincinnati, will issue, in the course of the summer, a work on pathological anatomy, with numerous illustrations. We have been favoured with a sight of the manuscript, and are much pleased with the plan and execution of the work. Professor Gross has ample talents ; his experience has been great, and his acquaintance with the labours of his brother pathologists at home and abroad is extensive.

We have no doubt that such a production from so able a source will be highly appreciated by the profession.

Report of the Eastern State Penitentiary.¹

We notice this report chiefly for the purpose of alluding to a misapprehension, which has arisen, in the minds of some, in regard to a term employed by Dr. Darrach—the medical attendant upon the establishment—and which has given rise to a correspondence in the last report of the Prison Discipline Society.²

Dr. Darrach exhibits that cases of dementia—meaning the acute dementia of Esquirol—are susceptible of cure, and are cured under his agency ; whilst others, defining dementia to be a state of amentia, or mental defect, regard it to be incurable. The whole difference, as in many cases of more angry disputation, consists in definition.

¹ Tenth Annual Report of the Inspectors of the Eastern State Penitentiary of Pennsylvania. Read in Senate and House of Representatives, Feb. 19, 1839.

² Thirteenth Annual Report of the Board of Managers of the Prison Discipline Society. Boston, p. 236. Boston, 1838.

Dr. T. J. White on the Effects of Intemperance.

We have been favoured with a copy of this address which was recently delivered before the St. Louis Total Abstinence Society; and although we may not perhaps go so far as the author in his estimate of the physical evils induced by the use of alcoholic liquors; the mischiefs are so great that we are delighted at any effort to arrest them.

The address comes to us from an old acquaintance in the west—one of our earliest and most attentive pupils in the University of Virginia, of which noble institution he is a medical graduate; and it has afforded us no little satisfaction to learn that his professional qualifications have been duly estimated in the flourishing community in which he has settled.

MISCELLANEOUS NOTICES.

Malaria in Ireland.—[We have often referred in the pages of this journal, as well as elsewhere,¹ to the unsatisfactory nature of the evidence, that vegetable decomposition is the source of malaria, and in this term we would include not simply the emanations which give rise to intermittent and remittent fever, but to pellagra, beriberi, elephantiasis, bronchocele, and other diseases that are unquestionably connected with locality. The following communication adds another to the many facts on record, of every circumstance connected with vegetable life and decomposition being apparently present to give rise to malaria; yet inasmuch as the locality itself was not malarious, the presence of the “fitful pest” was not evidenced.—*Ed.*]

To the Editor of The Lancet.²

Sir,—I was not a little surprised that the interesting subject of malaria, so long and so ably discussed at the Westminster Medical Society, should come to a conclusion without once referring to Ireland and its extensive bogs. If decomposed vegetable matter, as it is usually supposed, be the cause of malaria, surely it is there we must look for it in the greatest abundance. But what is the fact? Why, that intermittent fevers are almost, if not wholly, unknown there. I allude most particularly to the bog of Allen. It must be admitted that the Irish peasantry are constantly exposed to miasma (if such existed), for they are obliged, for the sake of fuel, to live as near as possible to these bogs; and, indeed, in many instances, huts are built in the midst of them. Notwithstanding all such predisposing causes, ague is rarely, if ever, known there. One strong proof of its non-existence is, that it is almost a proverb with the poor people who come over to England during harvest time, that they are sure to get the ague before they return. Still, *typhus fever, in its severest form, is not an uncommon occurrence.* So much for Ireland. Now for Wales, or, rather, the small town of Towyu, in Merionetshire, containing about 500 inhabitants, where I believe I shall not be far wrong if I say a third of the inhabitants are annually attacked with ague. To all external appearances the ground upon which this town is built and the borders of the bog of Allen are alike; certainly, the turfs dug from each, as far as I am capable of judging, are

¹ See, especially, the editor's *Elements of Hygiene.* Philad. 1835.

² *Lancet*, April 20, 1839, p. 111.

identical. The fifteen years that I lived in Towyu I suffered from six attacks of ague, and those within the last ten years; since I left I never had the slightest symptom of it. Here the first attack comes on, generally, about the age of five or six years, and, in spite of all treatment, continues, on an average, four months; during the three spring months the disease is by far the most prevalent: it rarely proves fatal. The first attack I had, I understand, lasted nine months; afterwards three weeks or a month was the outside of its duration; and, in the majority of cases it got milder and milder every year, so that at last you got, as it were, acclimated, and, instead of an attack of ague, you merely felt a slight indisposition. *Here typhus, or, indeed, any continued fevers, are of very rare occurrence.*

Dr. Chowne, and many others, are of opinion that the causes of intermittent, remittent, and continued fevers, are identical; the above facts, will, at all events, go some way towards dispelling such opinion. If you consider the above worthy of a place in your valuable journal, I shall feel obliged by its early insertion. I remain, Sir, your humble servant,

J. JONES.

1, *Dalston-terrace, Dalston,*
March 20, 1839.

Granville's Counter-irritant Applications.—A writer in a recent number of the Boston Medical and Surgical Journal,¹ enquires whether any physicians of the United States are known to have made trial of Granville's plan of counter-irritation; and if so, what have been the results? In reply, we may say, that it has been extensively employed in Philadelphia, both in public and in private, and in many cases has been productive of that relief which a sudden and powerful revellent is capable of accomplishing in neuralgic and congenerous affections. To this subject we shall probably have to revert.

*Medical Jurisprudence.*²—The determination of the period since which a fire-arm may have been discharged is a point of much importance in medical jurisprudence, and evidently applicable to various cases of homicide, wounds, &c. The question has recently been examined with much care by M. Boutigny, who has ascertained by numerous experiments, that we can indicate very closely the period at which a fire-arm has been discharged. It may, however, be objected that as the barrel of a gun may be easily washed, all traces by which the medical jurist is guided may thus be obliterated. M. Boutigny has provided against this objection, or rather determined the characters by which it may be known whether a gun-barrel has been recently washed or not. The author has discovered that the iron of a gun-barrel does not become oxidised for a considerable time, whenever the interior of the barrel has been lined, as it were, with the residue of the combustion of powder; and even when oxidation does take place, the traces escape the naked eye, because the oxide is gradually dissolved in the acid of the sulphate of potash, or in that resulting from the oxidation of the sulphuret of potassium. Hence it follows that the wadding of the gun will present certain differences, according as the gun may or may not have been washed before having been charged.

We must refer the reader to the original article ("Ann. d'Hyg. et de Méd. Legal," January, 1839), for an account of the experiments of the author, whose conclusions only we here insert.

The wadding of a gun which has been reloaded without having been washed, presents a grayish-black tinge; but if the gun have been cleaned the

wadding is of an ochre or deep-reddish colour. However, when a gun has been charged immediately after having been washed, and the wadding is examined a few hours afterwards, the colour is then found to be a greenish-yellow, which passes rapidly to a brown-red, when exposed to the action of the air and atmospheric moisture. If to the preceding characters we add those which are derived from the absence or presence of sulphuric acid, we may conclude to a certainty that the gun has been cleaned or not, before it has been charged. In order to render the materials which are to be submitted to the medical jurist available, certain precautions must be taken by the magistrates or police authorities into whose hands the suspected arms may, in the first instance, fall. The muzzle of the gun should be closed with a paper wadding, and then covered over with some paper, to which an official seal should be attached. The same precaution should be employed with respect to the lock of the gun, whether it be a flint or percussion one.—*Arch. Gén. de Méd.*, Feb. 1839.

Case of Tetanus, with Trismus, successfully treated. By Dr. SPÖRER.—Gustav Gustavson, æt. 24, a coachman, of robust make, was admitted into the Marine Hospital, December 11, 1831. On December 5th, when raising a heavy water-tub, he experienced a severe pain, extending from the scrobiculus cordis to the umbilicus, and the whole length of the back from the upper cervical to the lower lumbar region: this was succeeded by trismus. Having submitted to the action of the hot-air bath, which produced copious perspiration, and the application of eight cupping-glasses, to the neck and back, he was so far relieved as to be enabled on the same evening to resume his usual occupation of driving. During the night he experienced occasional and slight attacks of both trismus and tetanus; which, however, ceased after a further profuse perspiration on the following morning. During the succeeding day his avocation subjected him again to long exposure in the cold air, in consequence of which he was several times attacked by opisthotonus whilst seated on his coach-box. On December 7th the symptoms became much aggravated, and he was then (at home) bled to a pound, and twenty leeches applied to the abdomen; a warm bath and frictions to the back were also employed, and some internal remedies exhibited, with the effect of again procuring mitigation of the symptoms: but, on the morning of his admittance into the hospital (11th), all the former symptoms had recurred with increased violence, accompanied by severe spasm of the dorsal, thoracic, and abdominal muscles; his face was distorted, his teeth clenched and grinding; the head and body curved backwards, and the belly drawn inwards and as unyielding as a board; pulse 88, small, and contracted; respiration short and gasping; bowels constipated during two days. As inflammation of the theca vertebralis was presumed to be the proximate cause of this attack, the following treatment was adopted: twenty leeches were applied along the course of the vertebral column, and the patient afterwards placed in a warm soap-bath; a powder, of cal. gr. vi. cum rad. jalap. 9 j., was administered, being passed through the intervals between the teeth; and, as no action of the bowels followed this before evening, it was repeated, and injections employed until at last two copious and fetid evacuations were procured.

On the following day (December 12th), the attacks were more rare, but still severe: he was ordered to take cal. gr. j. sextis horis, and the cupping to the epigastrum and between the shoulders was repeated. On the 13th, he had passed a quieter night, and had perspired less copiously: this was, however, succeeded during the day by several sharp attacks of spasm, and the trismus continued unabated. Dry cupping-glasses were then applied along the sides of the spinal column, and to the upper part of the abdomen; frictions were again employed, and the affected parts enveloped in oiled flannels. On the two following days (14th and 15th), the symptoms became materially alleviated, and the calomel was then omitted. Between the 16th

and 18th, the opisthotonus subsided: the trismus, with some spasm of the scapular muscles, continued, but in a milder form.

After this report the secretions gradually resumed a healthy character, and by January 10th all muscular spasm had ceased, and he was discharged well.

In comparing the earlier and later treatment, Dr. Spörer takes occasion to give it as his opinion that, in the present instance, the employment of the dry cupping-glasses, oily frictions, and frequent employment of the warm soap-bath, materially aided in procuring a successful result to the case.—*Zeitschrift für die gesammte Medicin.* Band vi. Heft 1. And *Br. and For. Med. Rev.* April, 1839.

Case of Fatal Inflammation of the Vermiform Process. By Dr. BIESKE.—L. H. aged twenty, tall, but of robust constitution, and previously in the enjoyment of good health, complained of being sick and uncomfortable on the evening of the 2d September. In the early part of the day he had been in excellent spirits, and had taken a hearty dinner. On the 3d he complained of want of appetite, weariness, pains in the limbs, and a slight pain in a circumscribed spot, of about three inches in diameter, in the right iliac region, which was somewhat increased by pressure. The tongue was coated, and the pulse rather frequent. The disease was considered as a slight febrile attack, eight leeches were applied to the painful part, and a dose of acetate of potash given internally. In the evening the pain was removed, and the patient appeared to be doing well. An emulsion of castor oil with laurel water was given to open the bowels. The condition of the patient remained much the same during the 4th; on the 5th he was more restless, and complained of a return of the pain in the side, which was again removed by the application of leeches. In the evening there were still no unfavourable symptoms, but on the morning of the 6th matters had assumed a different aspect; the pulse could scarcely be counted, was small, hard, and wiry, the abdomen tense and tympanitic, but not painful; the face collapsed, and the extremities cold. The patient was immediately bled, but his weakness prevented more than two cups of blood being taken. In spite of a variety of remedies, his state went on from bad to worse, and he expired at 1 o'clock on the morning of the 7th.

On dissection, the processus vermiciformis was found in a state of mortification, and a concretion, about the size of a large coffee berry, the probable cause of the disease, was found impacted in it. A section of the concretion showed its nucleus to be formed by the stone of a grape.—*Rust's Magazin für die gesammte Heilkunde.* Vol. lii. Part 2. And *Br. and For. Med. Rev. April, 1839.*

Fricke and Oppenheim's Journal.—The last number of this valuable periodical, which we have received,¹ contains abstracts of cases, &c. by Dr. Posey, Dr. E. A. Anderson, Dr. Vedder, and Drs. Purdie and Annan, published at different times in the "Intelligencer."

BOOKS RECEIVED.

From the Author.—On Scarlatina, in a letter addressed to his son. By William Ingalls, M. D., MM. S. Soc. &c. Second edition, with an appendix. 8vo. pp. 40. Boston, 1839.

From the Author.—Address of Dr. T. J. White, before the St. Louis Total Abstinence Society. (In the St. Louis Commercial Bulletin, May 15, 1839.)

¹ *Zeitschrift für die gesammte Medicin u. s. w.* May, 1839.